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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/376,063

Applicant(s)

Seigi

Examiner
Michael Datskovsky

Group Art Unit
2835



☒ Responsive to communication(s) filed on Jul 20, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 20-23 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 20-23 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

The examiner acknowledges the applicant's submission of the amendment filed on 07/20/2000.

At this point claims 1-14 are canceled, claims 15-19 are non-elected and new claims 20-23 are drawn, thus claims 20-23 are pending in the instant application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by Barrow.

Barrow teaches a semiconductor device, figs.3-5, comprising: a substrate 12 having a main surface 14 and a back surface 16, wherein said back surface 16 has a central area 38, an intermediate area 42 surrounding said central area 38 and a peripheral area 36 surrounding said intermediate area 42; a semiconductor chip 18 formed on said main surface; a first bump unit formed in said central area of said back surface, wherein said first bump unit radiates heat from

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said semiconductor device (abstract, lines 12-15); a second bump unit formed in said peripheral area of said back surface, wherein said second bump unit transmits signals (col.3, lines 6-7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrow.

Although it is well known in the art to employ semiconductor packages wherein a separate central set of heat transferring bumps has a pitch which is smaller than a pitch of separate peripheral set of bumps for transmitting signals (good examples are Bond et al and newly cited Newman-US Patent 5,490,324) the difference between distances of the locations of the well known parts should not be rejected by the prior art. Barrow teaches all the limitations of the claims except **certain relationships between width of said intermediate area and the distances from each other of the first unit bumps and second unit bumps.** It would have been obvious to one having ordinary skill in the art at the time the invention was made to establish these relationships in the device by Barrow, since it has been held that where the general

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conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Newman (US Patent 5,490,324) and Pastore et al (US Patent 5,285,352)

Conclusion

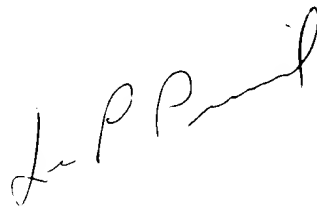
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Datskovsky whose telephone number is (703) 3-6-4535.

A handwritten signature in cursive script, appearing to read "L. P. P.", is written diagonally across the page.

M.D.

August 1, 2000